- WATER RESOURCES
  (SECTION 5.5 FROM 99-AFC-7)

5.5 WATER RESOURCES

5.5.1 Affected Environment

The proposed Pastoria Energy Facility (PEF) will be constructed on approximately 30 acres, which will be leased to PEF by the Tejon Ranch Company. The site is about 30 miles south-southeast of downtown Bakersfield, California, and 6.5 miles east of Grapevine, California (refer to Figure 3.2-1 and Map 3.2-1).

The only surface water body in the vicinity of the PEF site is Pastoria Creek, a small stream which drains winter and spring runoff from the Tehachapi Mountains. The primary channel of Pastoria Creek is located approximately 1,000 feet west of the site. Pastoria Creek and other surface water features are shown on Map 3.2-1.

Groundwater levels in the project area are generally greater than 180 feet deep. An adjacent gravel pit operation is approximately 100 feet deep and has not encountered groundwater. Onsite geotechnical investigations have drilled to a depth of 100 feet and have not encountered groundwater.

Average annual precipitation at a station in Lebec is 12.3 inches (Hydrosphere, 1999). The evaporation rate measured at the nearby Wheeler Ridge 1E evaporation station is 82 inches per year (California Department of Water Resources, 1979) which results in minimal groundwater recharge in the project area.

5.5.1.1 Pastoria Energy Facility

5.5.1.1.1 Water Supply. Plant make-up water will have an average annual use of 3,115 gallons per minute (gpm), or 5,025 acre-feet/year. Peak make-up water use is estimated to be 5,015 gpm. Potable water demand for drinking, sanitary requirements, safety showers and utility stations will be approximately 20 gpm, or 32 acre-feet/year. A detailed breakdown of the plant's daily water usage is presented in Table 3.4.8-1.

PEF will obtain its water supply from the Wheeler Ridge-Maricopa Water Storage District (WRMWSD). Water will be provided under a long-term contract in a new rate class that WRMWSD is creating for customers with high reliability requirements. WRMWSD will serve PEF with water supplies from the aqueduct when those supplies are available (See Table 3.4.8-6 for a list of the types of water supplies available to WRMWSD from the aqueduct). When aqueduct supplies are insufficient or unavailable, WRMWSD will draw water from its groundwater storage facilities to serve PEF. Water will be delivered to the PEF via a 20- to 30-inch water supply line that will connect to a 54-inch water main that WRMWSD is planning to construct approximately 250 feet west of the site.

Currently WRMWSD supplies most of its customers through deliveries from the California Aqueduct under a contract with the State Water Project that runs through the year 2035. WRMWSD has entitlements of 197,000 acre-feet/year from the State Water Project, and is currently delivering approximately 190,000 acre-feet/year of that entitlement in a normal year. In addition, WRMWSD currently (as of 1998) has stored supplies of water of over 743,000 acre-feet within its boundaries and approximately 243,000 acre-feet outside its boundaries. In addition to its current resources, WRMWSD is developing a new storage facility in the White Wolf basin that would add up to 50,000 acre-feet of annual extraction capacity. Water stored in current and planned storage facilities will provide the necessary supplies to meet customers' needs in drought years when the State Water Project decreases its deliveries.

Water supplied from the California Aqueduct will need to be treated before it is introduced to the PEF cooling tower. Treatment will consist of a combination of clarification, flocculation, and/or filtration to remove silt. More detailed water treatment requirements are outlined in Sections 3.4.8.3 and 3.4.8.4. Concentrations of major constituents of the raw water from the California Aqueduct are listed in Table 3.4.8-2.

5.5.1.1.2 Hydrology. The PEF site is located at the northern base of the Tehachapi Mountains. The ground slope in the project vicinity is about four percent from the California Aqueduct to the north side of the site. The construction laydown area is located adjacent to, and directly south of the plant. This location could be subjected to a flooding from overbank flow from Pastoria Creek and from swales in the floodplain during a 100-year storm event.

100-Year Flood Plain. According to floodplain maps prepared by the Federal Emergency Management Agency (FEMA), the site is within the designated A-Zone. This is a zone where flooding could be expected to occur during a 100-year storm event but base flood elevations have not been determined. Although FEMA has identified this area as a potential flood area, FEMA has not completed sufficient work to calculate the expected depth of floodwaters. The FEMA study, although adequate for evaluation of risk to agricultural land uses, was not completed with sufficient scientific rigor to be used to evaluate the risk to the PEF project.

The applicant for the PEF project has prepared hydraulic studies to more accurately define flood limits and elevations, and to develop grading and drainage strategies to protect the site. The detailed hydraulic study is included as Appendix M to this AFC.

Surface Waters. Pastoria Creek is a small stream that runs from south to north approximately 1,000 feet west of the site. It is the only surface water body within the PEF site vicinity. The creek drains a total area of approximately 31 square miles above the point where the creek crosses the California Aqueduct south of the PEF site. The maximum annual flows measured in Pastoria Creek are listed in Table 5.5-1. The flows for years 1966 to 1971 were measured near Lebec, California. The flows for years 1975 to 1978 were measured slightly downstream near Grapevine, California. The measured flows for years 1966 to 1971 have been adjusted to correspond to the larger downstream drainage area.

Climatic data is collected at a nearby station located in Lebec, California. The station is located approximately 8 miles south of the plant site. The average annual rainfall is 12.3 inches, based on 50 years of data collected from 1948 to 1998 (Hydrosphere, 1999). Table 5.5-2 lists the average monthly rainfall data at this station.

Hourly precipitation data are available from the Chuchupate Station, which is about 12 miles southwest of the site in Ventura County, California. These data have been used to estimate recurrence interval data. Table 5.5-3 presents storm duration-recurrence, based on data collected between 1941 and 1974. Because the project site is relatively small in area and annual precipitation is very low, runoff and seepage from the project site to Pastoria Creek will have only a minor impact.

Groundwater. As indicated in Section 5.5.1, groundwater levels in the project area are generally greater than 180 feet deep. Groundwater recharge in the PEF site area is minimal.

5.5.1.2 Transmission Line Route

The proposed 230 kV transmission line (Route 1) is 1.38 miles long. It will run south from the project site to the existing Pastoria substation, where it will connect to Southern California Edison's electrical transmission system.

Route 1 crosses Pastoria Creek at approximately milepost (MP) 0.3, and the California Aqueduct at MP 1.0.

5.5.1.3 Pipelines

5.5.1.3.1 Fuel Gas Supply Line. Three alternative routes (Proposed Route 3 and Alternate Routes 3A and 3B, Map 3.2-1) are under consideration for the fuel gas supply line. The

proposed Route 3 exits the project site from the northeast corner and runs east about 0.7 mile to the vicinity of an existing aqueduct. It follows the aqueduct northeast for approximately 5.2 miles, then it runs north for 1.3 miles, then northwest for 1.9 miles, then west for 2.85 miles, and then it runs north approximately 0.4 mile to the proposed tie-in point. The 14 stream or drainage crossings that occur along Route 3 are listed in Table 5.5-4.

Route 3A splits from the proposed Route 3 at approximately MP 8.27. It heads north-northwest for 3.6 miles, then it runs west along David Road for approximately 2 miles before connecting to an existing fuel gas line. The 6 stream or drainage crossings (in addition to the 14 traversed between MP 0.0-8.27) which occur along Route 3A are listed in Table 5.5-5.

Route 3B splits from Route 3A at approximately MP 11.9. It follows the Tejon Ranch Boundary around the western side of the Tejon Hills, first going northwest for 3.0 miles, then heading northeast for 3.6 miles to an existing fuel gas line. From the point where Route 3B diverges from Route 3A, Route 3B only crosses Tejon Creek at approximately MP 14.8.

5.5.1.3.2 Water Supply Line. The project will be served by the Wheeler Ridge-Maricopa Water Storage District, as mentioned in Section 5.5.1.1.1. The proposed 0.05-mile water supply line route (Route 2) does not cross any streams or drainages between the plant site and the interconnection point with the District's proposed line.

5.5.1.3.3 Wastewater Discharge Line. Two approaches are under consideration for the processing of wastewater. The first option would involve injecting the wastewater stream into oil wells located approximately 1.7 miles north of the site. The proposed wastewater discharge line route (Route 4) extends north approximately 1.7 miles and crosses Pastoria Creek at about MP 0.7. The second option would use onsite equipment to concentrate the dissolved and suspended solids in the wastewater through a combination of evaporation and crystallization, resulting in the production of two to four cubic yards per day of non-hazardous salt cake. The solid salt cake would be collected in enclosed containers for offsite disposal or sale. The remaining wastewater would be recycled to the plant's cooling water system. This would result in zero wastewater discharge.

5.5.1.4 Access Road

The proposed 0.85-mile access road (Route 5) will connect the plant site to the existing Edmonston Pumping Plant Road. The proposed road crosses Pastoria Creek at approximately MP 0.38. A culvert will be constructed to allow the road to pass over Pastoria Creek.

5.5.2 Environmental Consequences

The environmental consequences of the PEF project, including the generating plant, transmission line and pipelines, with respect to water supply, hydrology, and water quality, are mainly related to the use of fresh water for power production. Minor increases in erosion resulting from changes in flow off the PEF site or as a result of construction of pipelines and transmission line structures will be mitigated by the implementation of Best Management Practices (BMPs) during construction. Construction activities will be performed in accordance with the California NPDES General Permit for the Discharge of Storm Water Associated with Construction Activity.

5.5.2.1 Pastoria Energy Facility

5.5.2.1.1 Water Supply. WRMWSD has indicated that it will be capable of providing PEF with a reliable water supply without impact to its current and future customers. WRMWSD is planning to increase its underground storage capabilities which will provide a reliable supply for the PEF. Planned development of storage capacity in the White Wolf basin by the WRMWSD will add up to 50,000 acre-feet/year of extraction capability. The WRMWSD plans to use "interruptible" supplies from the State Water Project to develop storage in the White Wolf Basin. Interruptible supplies are only available in wet years when surplus water is available. As such, no significant impacts related to water supply, including other water users, are expected to occur.

State Water Policy and Regulation.

State of California Water Resources Control Board (SWRCB). In 1975, the SWRCB issued a policy on the use and disposal of inland surface waters used for power plant cooling (Resolution No. 75-58). The policy contains the following principles that are applicable to this project:

- An order of priority of water sources for power plant cooling was established subject to site specifics such as environment, technical, economic and feasibility considerations. The order is:

    1. Wastewater being discharged to the ocean
    2. Ocean
    3. Brackish water from natural sources or irrigation return flows
    4. Inland wastewaters of low TDS
    5. Other inland waters.

- The use of inland waters for power plant cooling requires analysis of the impact on Delta outflow and Delta water quality objectives.

- The discharge of blowdown water from cooling towers must not cause a violation of water quality objectives or waste discharge requirements established by Regional Boards.

Monterey Agreement. The Agreement, signed in 1994, provides a mechanism for the allocation of water based upon entitlements during water-short years on an equal basis for urban and agricultural purposes. It reallocated water entitlements between urban and agricultural users, provided for additional transfers of entitlements from agricultural use to urban use, enabled water to be stored in other districts' storage fields, allowed transport of non-SWP water in the California Water Project's conveyance systems, and enhanced the ability to exchange water between SWP contractors.

Calfed Bay-Delta Program. The CALFED Bay-Delta Program (Program) is a combined state-federal-stakeholder effort to develop a comprehensive long-term plan to restore ecosystem health and improve water management for beneficial uses of the San Francisco Bay-Delta system. The Program is developing a comprehensive package of elements in three phases to address ecosystem restoration, water quality, water supply reliability, and levee and channel integrity. Phase I, completed in September 1996, identified problems confronting the Bay-Delta System, developed a mission statement and guiding principles, and devised three basic alternative approaches to solve the identified problems. Phase II refined the preliminary alternatives, conducted a comprehensive programmatic environmental review, and developed an implementation strategy. Phase III of the Program, Implementation, will occur over the next 20 to 30 years.

5.5.2.1.2 Hydrology and Water Quality.

100-Year-Flood Plain. FEMA prepared a Flood Insurance Study (dated September 6, 1995) for Kern County to assist local and regional planners to promote sound land use and floodplain development. The report did not include any specific technical analysis of Pastoria Creek but rather, in a general way, indicated that the project site was an area that had a potential for shallow flooding. The project proponent, recognizing the limitations of the Flood Insurance Study, has developed a detailed report focusing on Pastoria Creek and the project site. This report is included as Appendix M to the AFC.

Pastoria Creek drains approximately 31 square miles of the Tehachapi Mountains upgradient from the PEF site. The creek flows through a gap in the California Aqueduct, which effectively limits the ability of the creek to leave the existing channel. The hydrology study prepared for the project indicates that Pastoria Creek will have a peak flow of 4,050 cfs at the California Aqueduct. An independent study by the California Department of Water Resources has generally corroborated these calculated flows.

Beginning at the aqueduct, the Applicant has performed a US Corps of Engineers' HEC-1 analysis of Pastoria Creek and has developed a more detailed flood extent limit. As can be seen on the "Flood Inundation Map" in Appendix M, the site is located outside the flooded area. For added protection, several small berms are planned along the project boundaries to provide additional control. The berms will be constructed as wide structures with varying side slopes and will be protected with native vegetation in order to enhance their stability and effectiveness.

Within the actual project site, buildings and equipment will be constructed on foundations set at elevations above potential surface water elevations. The overall site-grading scheme will include overland release mechanisms for storm waters. The storm water drainage system will be sized to accommodate a 10-year storm event. Buildings and equipment will be constructed in a manner that will provide protection from a 100-year storm event.

Appendix M provides information on the risk of flooding as well as the proposed protective measures. With implementation of the proposed protective measures, no significant impacts related to flooding are expected to occur.

Surface Water. Control and treatment of storm water on the PEF site is discussed in Section 3.5.7, and will include Storm Water Detention Ponds. Runoff from unimproved areas of the site will drain directly to the Detention Ponds. Runoff from paved areas and building roofs will be directed to an oil-water separator before being discharged to the Storm Water Detention Ponds. Detail on the site drainage system is provided in Section 3.5.7. Storm water from the Detention Ponds that has been determined to be non-polluted will be discharged to Pastoria Creek in accordance with the California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities.

Additionally, erosion and sediment controls and other Best Management Practices will be developed and implemented for the construction, post-construction, and operational phases, in accordance with the California NPDES General Permit for Storm Water Discharge Associated with Construction Activity, with the California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, and with other laws, ordinances, regulations, and standards (LORS) as applicable. Therefore, no significant impacts to surface water quality will occur as a result of construction and operation of the PEF.

Groundwater. Groundwater levels in the project area are greater than 180 feet deep. Activities at the project site are not expected to have any effect on groundwater.

An onsite system will be used to convey the plant's sanitary wastes to an underground septic tank and leaching field. The estimated amount of sanitary wastewater is 1,400 gallons per day. The solids will be periodically removed from the septic tank for transport and suitable disposal. No significant impacts on groundwater are expected because water from the leach fields will be filtered through at least 100 feet of soil before entering upper aquifers.

Liquid process wastes from the cooling tower blowdown, the HRSG blowdown, the evaporative cooler blowdown, and the demineralizer system backwash will be collected and discharged into ground water injection wells or be treated onsite. Storm and wash water collected from plant equipment drains will be sent through an oil-water separator. The skimmed oil will be collected and sent offsite for disposal. The clear water will be treated onsite or discharged to the injection wells. The quality of wastewater streams is summarized in Table 3.4.8-4. The average quantity of wastewater discharge is estimated to be 765 gpm or 1,232 acre-feet/year. Peak discharge will occur in the summer and is estimated to equal 1,145 gpm. Assuming implementation of the Applicant-committed cement and sealing, monitoring

plan, and mitigation measures, identified in Section 5.5.3, no significant impacts are anticipated to occur.

The Applicant is currently performing a study to assess the feasibility of groundwater injection for wastewater disposal. If groundwater injection is determined to be infeasible, the project will employ a zero discharge system.

If the water is treated onsite, it will be evaporated to salt cake and therefore will result in no discharge and no impact to the environment relative to water resources. If it is discharged to injection wells, it will comply with permit requirements set by the EPA. According to the EPA (Robin, 1999) the PEF injection well would be a Class I injection well. To permit a Class I injection well, all existing and abandoned wells, water bodies and hazardous waste storage areas within 0.25 mile of the proposed injection well will need to be identified and mapped. These would primarily be either existing or abandoned oil wells or associated facilities. Well construction will comply with EPA requirements before it is used for injection. Typically, wells will be cemented to insure that none of the injected fluid will migrate vertically up along the well. The EPA will likely require that a monitoring plan be submitted for approval. The monitoring plan may require the installation of monitoring wells. Periodic sampling of the wastewater discharge will be performed to confirm that its composition is within permit limits.

5.5.2.2 Transmission Line Route

The project will minimize the potential for accelerated erosion arising from construction of the transmission line through the use of appropriate erosion control measures. If construction occurs during heavy rains, there is a small increased potential for erosion at locations where transmission line structures are installed. The amount of erosion is dependent upon the area of ground disturbance; as listed in Table 3.8-6, an estimated 400 square feet will be disturbed at each tower location. There is some potential for soil eroded in a large storm event to run off into Pastoria Creek; however during such a large storm, the amount of erosion due to project activities will be insignificant compared to the large amounts of natural erosion occurring in this area. With implementation of the Applicant-committed mitigation, no significant impacts on water quality are expected to occur.

5.5.2.3 Pipelines

It is assumed in the impact assessments provided below that all streams and drainages will be crossed by trenching.

5.5.2.3.1 Fuel Gas Supply Line. As discussed in Section 5.5.1.3.1 and Tables 5.5-4 and 5.5-5, the proposed and alternative fuel gas line routes cross multiple streams and drainages.

Erosion and sedimentation from the trenching activities will be controlled by implementation of Best Management Practices (BMPs) in accordance with California NPDES General Permit for Storm Water Discharge Associated with Construction Activities. There is a possibility that scouring by streams or drainages could expose the pipes, leaving them vulnerable to breakage. This hazard will be avoided by burying pipe below the scour depth. No significant impacts to water quality or pipeline safety are expected to occur.

5.5.2.3.2 Wastewater Discharge Line. If the proposed wastewater discharge line (Route 4) is constructed, it will cross Pastoria Creek. Best Management Practices during construction will include measures that ensure maintaining the integrity of the existing creek and preventing erosion or sedimentation within the creek. The potential for scour and pipeline failure will be minimized by burying the pipeline below the estimated scour depth. This will reduce the likelihood of pipe exposure and threats from potential leakage to the creek, thereby minimizing impacts to a level of insignificance. The injection wells would be constructed and operated in accordance with EPA requirements for Class I injection wells. No significant impacts to groundwater quality would be expected to occur.

5.5.2.3.3 Water Supply Line. The potential for erosion or scour from construction of the potable water supply line (Route 2) is very low and use of Best Management Practices during construction and operation will ensure that no significant impacts will result from construction or operation of the water supply line.

5.5.2.4 Access Road

The access road (Route 5) will result in some minor potential for increased storm water runoff due to an increase in impervious area. However, the surface area of the road (approximately 40 feet wide) is small compared to the pervious area surrounding it. Drainage will be controlled on both sides of the access road. Therefore, no significant water resource related impacts from construction and use of the access road are expected.

5.5.3 Mitigation Measures

This section presents Applicant-committed mitigation measures that will be implemented to reduce impacts to water supply, hydrology, and water quality in areas affected by the Pastoria Energy Facility, including the plant site, transmission line, pipelines, and access road.

WTR-1 Implement design measures to minimize erosion at the site.

WTR-2 Construct berms and grading pattern such that major equipment and buildings are protected from damage during flood conditions including a 100-year flood event.

WTR-3 Construct appropriate storm water drainage structures at the perimeter of the plant site to prevent erosion associated with overland flow discharging from the site (refer to Figure 3.1-7 for locations of planned berms).

WTR-4 Perform construction activities at the plant site in accordance with the Storm Water Pollution Prevention Plan (SWPPP) and associated Monitoring Plan, which will be required for the project in accordance with the California NPDES General Permit for Storm Water Discharge Associated with Construction Activity. The SWPPP will include Best Management Practices to control erosion and sediment (as well as other pollutants during construction).

WTR-5 Conduct operations at the plant site in accordance with the Storm Water Pollution Prevention Plan (SWPPP) and associated Monitoring Plan, which will be required for the project in accordance with the California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities. Implement the Best Management Practices listed in the SWPPP to prevent or control pollutants potentially associated with the operation of the plant.

WTR-6 Perform refueling and maintenance of construction equipment only in designated lined and/or bermed areas. Prepare and implement spill contingency plans in areas where they are appropriate.

WTR-7 During construction of pipelines and transmission lines, utilize existing roads as much as possible to limit disturbance. Water bars or other suitable control measures will be installed along the offsite pipeline rights of way in areas of sloping terrain, as applicable, to prevent water from running down the rights of way and scouring backfill from the pipeline trenches.

WTR-8 At stream crossings, the final pipeline design will include consideration of scour potential and streamcourse migration to ensure that the various pipelines are buried deep enough to avoid potential impact on the drainage through exposure of the pipeline. Construction measures will implement Best Management Practices that limit direct disturbance within the creekbed, as practical, and indirect disturbance such as erosion from the construction corridor or stockpiled material from trench excavation. The pipeline disturbance corridor will be stabilized and allowed to naturally revegetate.

5.5.4 LORS Compliance

Construction and operation of the Pastoria Energy Facility, including transmission lines and pipelines, will be conducted in accordance with all LORS pertinent to hydrology and water quality. The applicable LORS for water resources are discussed in Section 7.5.5.

5.5.5 References

California Department of Water Resources. 1976. *Rainfall Analysis for Drainage Design.*

1979. *Evaporation from Water Surfaces in California.* Bulletin 73-79. November, 1979.

Hydrosphere Data Products. 1999a. NCDC Hourly Precipitation West. Volume 9.2. Boulder, Colorado. 1999.

1999b. USGS Peak Flow Data. Boulder, Colorado. 1999.

Kunde, Robert. Wheeler Ridge-Maricopa Water Storage District. Telephone Interview. November 3, 1999.

Robin, G. 1999. U.S. Environmental Protection Agency (EPA). Personal communication. November 9, 1999.

TABLE 5.5-1

MEASURED FLOW IN PASTORIA CREEK FROM 1966 – 1971 AND 1975 – 1978[1]

	1966	1967	1968	1969	1970	1971	1975	1976	1977	1978
Peak Flow (cfs)	12.4	14.7	12.4	123.3	15.8	18.1	32.0	104.0	18.0	200.0

[1] Source: Hydrosphere, USGS Peak Flow Data, 1999.

TABLE 5.5-2

AVERAGE MONTHLY RAINFALL AMOUNTS (INCHES) LEBEC, CALIFORNIA[1]

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2.30	2.60	2.33	1.05	0.49	0.07	0.03	0.10	0.30	0.45	1.50	1.67

[1] Source: Hydrosphere, 1999. NCDC Hourly Precipitation West. Period of record: 1948 to 1998 (50 years).

TABLE 5.5-3

DURATION-RECURRENCE VALUE FOR PRECIPITATION AT CHUCHUPATE STATION, VENTURA COUNTY, CALIFORNIA[1]

Recurrence (years)	Maximum Precipitation (inches)					
	15-min.	1-hour	6-hour	12-hour	24-hour	1-year
2	0.21	0.42	1.00	1.38	1.74	11.66
10	0.34	0.68	1.63	2.26	2.84	18.79
50	0.46	0.91	2.18	3.01	3.79	24.49
100	0.50	1.00	2.40	3.32	4.18	26.77

[1] Source: California Department of Water Resources, 1976.

TABLE 5.5-4

STREAM OR DRAINAGE COURSE CROSSINGS FOR PASTORIA ENERGY FACILITY PROJECT FUEL GAS PIPELINE (ROUTE 3)[1]

Stream/Drainage Name	Approximate Fuel Gas Line Milepost of Crossing
Unnamed drainage #1	0.47
Unnamed drainage #2	0.65
Unnamed drainage #3	0.90
Unnamed tributary of drainage #3	1.25
Unnamed tributary of drainage #3	1.29
Unnamed drainage #4	2.17
Unnamed drainage #5	2.70
Unnamed drainage #6	3.26
Unnamed drainage #7	3.40
Tunis Creek	4.15
Unnamed drainage #8	4.73
Unnamed drainage of Cat Canyon	5.20
El Paso Creek	6.40
Unnamed tributary of El Paso Creek	6.53

[1] These crossings apply to Routes 3, 3A, and 3B.

TABLE 5.5-5

STREAM OR DRAINAGE COURSE CROSSINGS FOR PASTORIA ENERGY FACILITY PROJECT FUEL GAS PIPELINE (ROUTES 3A AND 3B)[1]

Stream/Drainage Name	Approximate Fuel Gas Line Milepost of Crossing
Routes 3A and 3B	
Caparell Creek	8.48
Unnamed tributary of Caparell Creek	8.60
Unnamed tributary of Caparell Creek	8.85
Unnamed drainage	9.85
Unnamed drainage	10.23
Unnamed drainage	10.69
Route 3B	
Tejon Creek	14.8

[1] Refer to Table 5.5-4 for other drainages traversed by alternate Routes 3A and 3B.